VESDA VLS

The VESDA VLS is similar to the standard VESDA VLP detector, but also includes a valve mechanism in the inlet manifold and software to control the airflow from the four sectors (pipes). This configuration enables a single VESDA zone to be divided into four separate sectors, for example, distinguishing between separate voids within a room.

How It Works

The VLS draws air from all sectors in use. If the smoke level reaches the Adaptive Scan Threshold, the VLS quickly scans each pipe to identify which pipe is carrying smoke. If more than one pipe is transporting smoke, the sector with the highest smoke concentration is designated as the First Alarm Sector (FAS).

Once Fast Scan is completed and the FAS identified, the VLS continues to closely monitor all four sectors (pipes) to monitor fire growth and maintain full protection of the area.

There are four alarm levels (Alert, Action, Fire 1 and Fire 2) for each sector (pipe) and the sensitivity for each alarm level can be set to ensure the optimum alarm thresholds are applied for each sector.

The VLS Display

The VLS display has a bar graph to indicate the overall smoke level, alarm threshold and fault indication. The bar graph displays the individual sector smoke levels during the scanning sequence. There is an extra LED to indicate that a First Alarm Sector (FAS) has been identified and an extra function to the Silence Button to allow for Manual Scan to be initiated.

The VLS display module can be mounted into the VLS front cover or remotely into a 19in subrack or a remote box.

Relay Options

The VLS detector can be fitted with a programmable 7 or 12 relay Termination card. Relays may be mounted in a remote box or in a 19in subrack.

VESDAnet™

The status of the detector, and all alarm, service and fault events, are transmitted to displays and external systems via VESDAnet, VESDA's fault tolerant communications protocol. The VESDAnet loop provides a robust bi-directional communication network between devices, even allowing continued operation during single point wiring failures. It also provides system programming from a single location and forms the basis of the modular nature of the VESDA system.

AutoLearn™ and Referencing

The VLS has both the AutoLearn™ and Referencing software functions to ensure optimum operation in different environments and to eliminate the occurrence of nuisance alarms.

AutoLearn monitors the ambient environment and sets the most appropriate alarm thresholds (Alert, Action, Fire 1, Fire 2) during the commissioning process. Referencing ensures external pollution to a protected environment does not interfere with the true smoke level being detected.

Features

- Individual pipe identification
- Adaptive Scan Threshold
- Wide sensitivity range
- Laser based smoke detection
- VESDAnet™ communication
- 4 alarm levels per sector
- High efficiency aspirator
- Clean air barrier optics protection
- Easy to replace air filter
- 7 or 12 programmable relays option
- AutoLearn™
- Referencing
- Event log
- Recessed mounting

Listings/Approvals

- UL
- ULC
- FM
- LPCB
- VdS
- CFE
- ActivFire
- AFNOR
- VNIIPO
- CE - EMC and CPD
- EN 54-20

Class A (40 holes / 0.08% obs/m)
Class B (40 holes / 0.23% obs/m)
Class C (60 holes / 0.65% obs/m)
Classification of any configuration is determined using ASPIRE2.

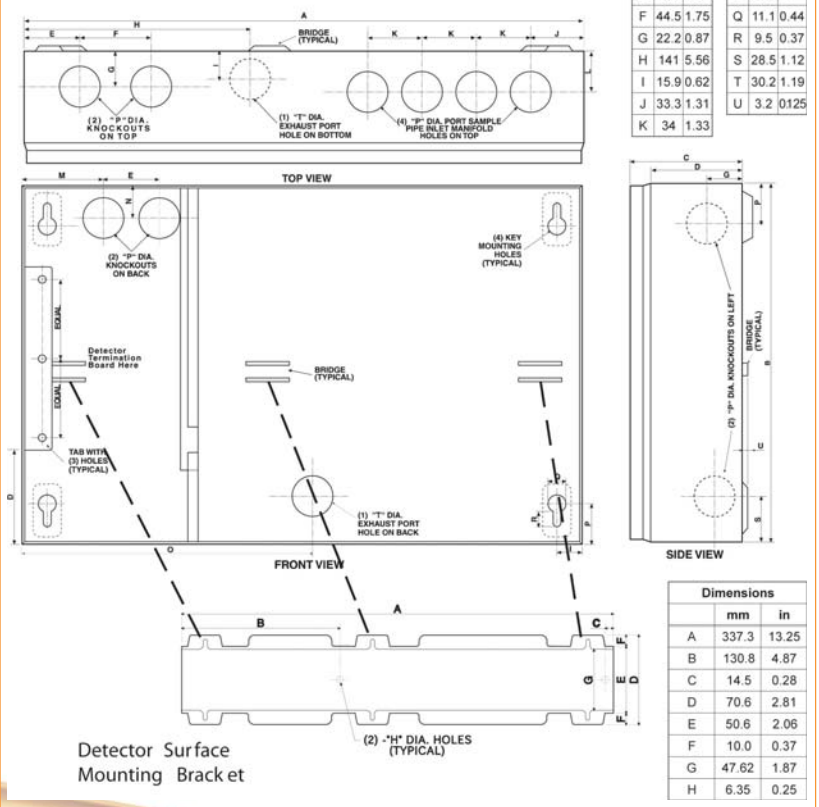
Regional approvals listings and regulatory compliance vary between VESDA product models. Refer to http://icswww.com for the latest product approvals matrix.

VESDA VLS

Detector Mounting Box

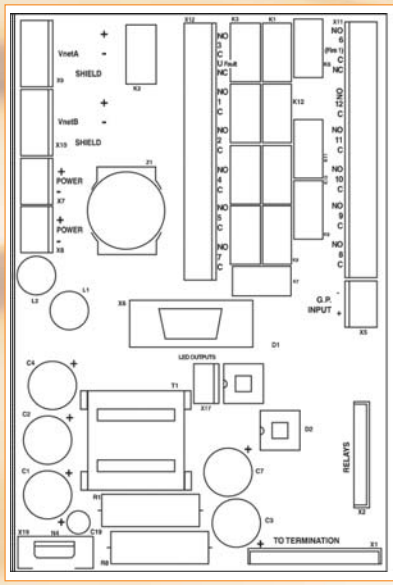
Dimensions		
	mm	in
A	350	13.8
B	225	8.9
C	70	2.75
D	57	2.25
E	35	1.37
F	44.5	1.75
G	22.2	0.87
H	141	5.56
I	15.9	0.62
J	33.3	1.31
K	34	1.33

Dimensions		
	mm	in
L	23.8	0.94
M	51	2
N	21	0.83
O	141	5.56
P	25.4	1
Q	11.1	0.44
R	9.5	0.37
S	28.5	1.12
T	30.2	1.19
U	3.2	0125

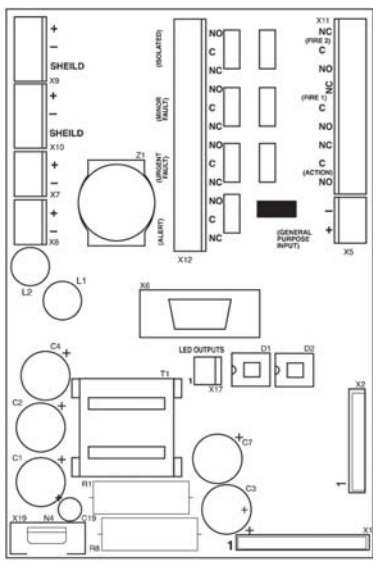


Dimensions		
	mm	in
A	337.3	13.25
B	130.8	4.87
C	14.5	0.28
D	70.6	2.81
E	50.6	2.06
F	10.0	0.37
G	47.62	1.87
H	6.35	0.25

Detector Termination Card 12 Relay Version



Detector Termination Card 7 Relay Version



VLS
Specifications

Supply Voltage: 18–30 VDC

Power Consumption @ 24 VDC:
No Display or Programmer

	Aspirator @ 3000 rpm		Aspirator @ 4200 rpm	
	Quiescent	With Alarm	Quiescent	With Alarm
Power	5.8 W	6.24 W	6.72 W	7.2 W
Current	240 mA	260 mA	280 mA	300 mA

Dimensions (WHD):
350 mm x 225 mm x 125 mm (13.8 in x 8.9 in x 4.9 in)

Weight:
4.0 kg (9 lbs) including Display and Programmer modules

Operating Conditions:
Tested to: -10°C to 55°C (14°F to 131°F)
Detector Ambient: 0°C–39°C (32°–103°F) (Recommended)
Sampled Air: -20°–60°C (-4°–140°F)
Humidity: 10%–95% RH, non-condensing
Please consult your local representative office for operation outside these parameters or where sampled air is continually above 0.05% obs/m (0.015% obs/ft) under normal operating conditions.

Sampling Network:
Aggregate pipe length: 200 m (650 ft)
Pipe Modelling Design Tool: ASPIRE2™

Area Coverage
Up to 2000 m^2 (21500 sq. ft.) depending on local codes and standards

Pipe Size:
Minimum flow per pipe I5 liters/min.
External Diameter 25 mm (1 in)
Internal Diameter I5–2I mm ($^9/_{16}$ in–$^7/_8$ in)

Programmable Relays:
7 or 12 Relays option
Contacts rated 2 A @ 30 VDC
Default: 7 Relays: NO/NC contacts Alert, Action, Fire 1, Fire 2, Maintenance, Urgent Fault & Isolate
Default: 12 Relays: 10 x NO, 2 x NO/NC contacts Alert, Action, Fire 1, Fire 2, Maintenance, Urgent Fault & Isolate, First Alarm Sector 1 to 4 and Scan

IP Rating: IP30

Cable Access: 8 x 25 mm (1 in) knockouts in various positions

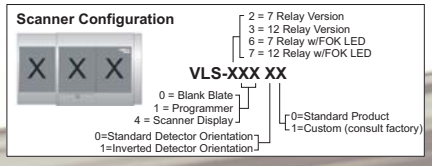
Cable Termination:
Screw terminals 0.2–2.5 sq mm (30–12 AWG)

Sensitivity Range:
0.005%–20% obs/m (0.0015%–6% obs/ft)

Alarm Threshold Setting Range:
Alert: 0.005%–1.990% obs/m (0.0015%–0.62 I 8% obs/ft)
Action: 0.010%–1.995% obs/m (0.003I%–0.6234% obs/ft)
Fire 1: 0.015%–2.00% obs/m (0.0046%–0.625% obs/ft)
Fire 2: 0.020%–20.00% obs/m (0.0062%–6.25% obs/ft)*
**Limited to 12% obs/m (4% obs/ft) in UL mode*

Software Features:
Event Log: Up to 18,000 events stored on FIFO basis.
AutoLearn: Minimum 15 minutes, maximum 15 days. Recommended minimum period 1 day. During AutoLearn thresholds are NOT changed from pre-set values.
Referencing: Compensation for external ambient conditions.
Four Alarm Levels (per sector pipe): Alert, Action, Fire 1 & Fire 2.
Two Fault Warning Levels: Maintenance and Major fault.
Software Programmable Relays: 7 or 12.
Maintenance Aids: Filter & Flow monitoring.
Event reporting via VESDAnet or Event Log.
Adaptive Scan Threshold: Detector selects the appropriate scan threshold automatically.

Ordering Information:



Remote Programmer	VRT-100
Recessed Mounting Kit (Optional)	VSP-011
Hand-held Programmer	VHH-100
19 in Sub Rack Configuration	contact Xtralis

Doc. no. 09361_14

Part: 17873